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CASE STUDY

Centrica Trading becomes one of the first energy trading companies in Europe to move its data center applications to the cloud

Complex migration to Microsoft Azure completed with zero business interruptions, delivering increased performance, lower time to market and transparency

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Business Situation
A major transformation in the cloud

Centrica is the largest gas and electricity company in the UK, owning approximately 26% of the market. Centrica Trading is the company's energy trading division, which trades energy in the electronic markets, hedging the risk for British Gas or dealing directly with corporate consumers. The energy trading IT in Centrica has been gradually shifting toward the cloud for several years – thanks in part to the help of Avanade Advisory. It was, therefore, an easy decision to go all in on the Microsoft Azure platform, utilizing the DevOps tooling that comes with the platform.

Centrica Trading's Head of IT, Rahul Malik, sensed an opportunity that a DevOps-based IT setup powered by the cloud could be used to reduce the cost per trade and improve the time to market for new ideas while also improving the workplace experience for its employees. The team built a strategy for how applications could be moved off the company's existing legacy data center infrastructure and into the cloud with minimal disruption to its 24x7 trading operations. "For a trading business to be successful, you need to constantly modernize your estate with the clear and simple objective of improving the time to market and reducing the cost per trade," explains Malik.

But first, Centrica had to overcome a number of key challenges and goals:

- **Increased speed and efficiency**
  There are dozens of factors that can impact energy commodity prices; everything from the weather to global politics can cause a sudden change in pricing. A legacy technology stack and fixed data center infrastructure limits the ability to innovate. Centrica Trading understood the importance of being the first mover when something changes at a macro level and wanted a way to launch new environments to test solutions as quickly as possible.
- **Flexible infrastructure**
  Many trading activities are complex and require complicated analytical models and simulations. Buying on-premises infrastructure to handle these activities is

expensive, especially when you consider the fact that the infrastructure isn't always being used. Centrica Trading wanted to shift these functions into the cloud, where infrastructure can be used in bursts on an "as needed" basis.

- **Lower cost per trade**
  Cutting costs is one of the primary ways a trading firm can increase profits. Centrica Trading wanted to digitize and automate its operations to minimize the amount of manual processes and lower cost per trade.
- **Transparency of costs**
  With its existing data center, it was difficult for Centrica Trading to have full visibility into its infrastructure and operations costs. Without this, finding efficiencies and reductions was a challenge.
- **Need for DevOps**
  Implementing DevOps is key to improving time to market, and cloud infrastructure accelerates the DevOps setup and adoption. Additionally, the company knew that having a proper DevOps setup in place would help it attract and retain high caliber IT talent.

When Centrica Trading made the decision to move most of its applications onto Azure, the choice to work with Avanade on the migration was an easy one. As a trusted partner for more than a decade, we knew the company's applications inside out and brought extensive expertise on the Azure platform. We also had strong onshore and offshore cloud migration skills available to support the project. "The scale of migration to Azure was huge, and we simply couldn't do it ourselves. We needed a trusted partner," says Malik. "It was a no-brainer to start the project with Avanade given their familiarity with the trading landscape and their knowledge of DevOps setups and Microsoft tooling."

> "We're a business where new opportunities keep coming. This was like having to change the tires while the car is moving. Downtime absolutely needed to be minimized."
>
> – Rahul Malik, Head of IT at Centrica Trading

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Solution
A complex, industry-first migration

The process of moving Centrica Trading's application estate from its legacy data center onto the Azure cloud was a complex journey that took nearly 18 months. Moving everything involved multiple phases and many thousands of virtual machines. "We were looking at petabytes of data that needed to be moved," explains Tarun Arora, Avanade's delivery lead for Centrica. "The scale was huge."

The size was significant because of the complexities that also came with it. One of the biggest challenges was that the migration needed to happen without interrupting Centrica Trading's 24/7/365 operations. Using an agile methodology, the project team worked to migrate multiple applications onto Azure piece by piece without outages. Many of the existing vendor applications needed to be upgraded and optimized for the cloud, while others were migrated within a day with no business interruptions. One of the key considerations during this project was information security and meeting industry regulations.

As a trading house, Centrica Trading is a highly regulated entity within the Centrica group in terms of local and European regulators. We created technical designs for every application that were thoroughly tested and signed off by Centrica's information security team. Thanks to this diligence, there were no security concerns flagged during the project.

"It may seem counterintuitive that the most heavily regulated group within Centrica has moved nearly all their applications to the Azure cloud, but that's exactly what has happened," says Arora. "That's a testament to the trust that the client had in our team and what we could deliver for it."

> "For us to get to the next level in terms of an IT organization, it was important for us to have a full-fledged DevOps setup for our trading."
>
> – Rahul Malik, Head of IT at Centrica Trading

"We immediately started seeing the results of moving to a transparent environment. I began getting reports each morning detailing the costs of each application on the platform and can take immediate action."

– Rahul Malik, Head of IT at Centrica Trading

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Results
Visibility and efficiency make an immediate impact on the bottom line

After going live on Azure, Centrica Trading quickly began seeing results that mapped to its key goals:

- **Reduced operating costs:** In the case of one app, Centrica Trading cut operating costs by 60 to 70%. "We could see savings right away," says Malik. The cloud infrastructure enables the company to spin up new environments 99% faster and remove them just as quickly.

- **Increased transparency:** Infrastructure costs for all development and production environments are now available throughout the day instead of waiting for a monthly bill. Such transparency breeds new ideas about infrastructure optimization from the developers. Likewise, the business can clearly see the cost straightaway and advise accordingly.

- **Greater stability and trade performance:** The tools available to employees in the cloud have improved the overall workplace experience. Getting new products launched takes less time, and traders can explore and exploit new opportunities faster than they could before.

The success of Centrica Trading's cloud project is a testament to the close relationship between our two companies. "I saw intense collaboration between the resources from Avanade and the people from Centrica," says Malik. "This wouldn't have happened without the collaboration being at the level it was at. This wasn't just about fulfilling a contract; the work was driven by a joint passion for achieving our goals."

The project represents a major transformation for Centrica Trading. With Azure, the company now has the right platform in place, and our joint team will continue optimizing applications and exploring the ways cloud technology can further push the boundaries of what's possible for the business.

> "Ultimately, we undertook the program not just to have this fancy technology, but to make our business efficient. We've been able to show our leadership that their investment is starting to have an impact on performance and therefore, a positive impact on cost per trade and time to market. That's what it's all about."
>
> – Rahul Malik, Head of IT at Centrica Trading

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About Centrica Trading

Centrica Energy Trading is the trading arm of Centrica. We trade gas, power and LNG and provide the route to market for our upstream and power generation operations. Employing around 600 people, we have offices in the UK, Denmark, Germany, Sweden and Singapore. We provide our clients with the best route-to-market services available to the market today, integrating sophisticated software, trading and structuring and optimising exposures all the way from long term risk management down to physical trading seconds before delivery. At Centrica Energy Trading we have a diversified portfolio of energy assets under management, and we represent the new generation of energy traders, leading our customers to value on low-carbon, digital energy markets across the world.

About Avanade

Avanade is the leading provider of innovative digital and cloud services, business solutions and design-led experiences on the Microsoft ecosystem. Our professionals bring bold, fresh thinking combined with technology, business and industry expertise to help make a human impact on our clients, their customers and their employees. We are the power behind the Accenture Microsoft Business Group, helping companies to engage customers, empower employees, optimize operations and transform products, leveraging the Microsoft platform. Avanade has 38,000 professionals in 25 countries, bringing clients our best thinking through a collaborative culture that honors diversity and reflects the communities in which we operate. Majority owned by Accenture, Avanade was founded in 2000 by Accenture LLP and Microsoft Corporation. Learn more at www.avanade.com

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